

In The Claims:

Please amend claims 4, 5, 12, 13 and 19, as follows:

4. (Amended) The apparatus according to claim 3, wherein the phase detection circuit further comprises a multiplier coupled to the event detector and hold off circuit, wherein the multiplier combines the event signal with a probe drive signal to produce the boosted probe drive signal.

5. (Amended) The apparatus according to claim 3, wherein the phase detection circuit further comprises:
a multiplier coupled to the event detector and hold off circuit; and
a control module, wherein the multiplier combines the event signal with a gain setting in the control module to increase error integration.

12. (Amended) The method according to claim 1, wherein the detecting step further comprising generating an event trigger signal based on the detected phase signal with a comparator and the boosting step further comprises boosting the drive signal of the probe by combining the event trigger signal with the drive signal of the probe to produce a boosted drive amplitude signal.

13. (Amended) The method according to claim 12, wherein the detecting step further comprises delaying the generation of the event trigger signal for a predetermined time.